



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/620,884

07/16/2003

Marvin I. Fredberg

RAY-132J

9093

landiorio & Teska
260 Bear Hill Road
Waltham, MA 02451-1018

7590

08/20/2007

EXAMINER

SINGH, ARTI R

ART UNIT

PAPER NUMBER

1771

MAIL DATE

DELIVERY MODE

08/20/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/620,884	Applicant(s) FREDBERG ET AL.	
	Examiner Ms. Arti Singh	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 05/24/07 have been fully considered but they are not persuasive. Applicant's first traversal is over the rejected claims 1-35 under 35 USC 112-2nd paragraph as being indefinite and unclear, because the Examiner states that the recitation of "radome" in claims 1, 19, 34 and 35 does not provide structure and is therefore not given any patentable weight as it is a composite formed from polyester polyacrylate fibers in a resin matrix. Claims 2-18 and 20-33 are also rejected as being dependant on a rejected base claim. Applicant submits that radomes are well know and then further states that an example of such a structure is, "an enclosure for an antennae," has been provided along with other examples that are cited within their specification, and that this is ample definiteness. It is the position of the Examiner, that Applicant is still claiming just a composite formed from polyester polyacrylate fibers in a resin matrix that is "capable" of being used as a radome. Therefore, this is not found to be persuasive and the 112- rejection is maintained as set forth in paragraphs 2-3 of the previous office action. It is suggested that perhaps Applicant amend the claims to states a Radome used as an enclosure for an antenna which comprises.... this may breathe some life into the claim in terms of structure, other than just the recitation of composite formed from polyester polyacrylate fibers in a resin matrix.

It should be noted that Applicant did not respond to the query (last line on page 2, under the 112-2 rejection, which states, "What is Applicant's stance on the differences between a rigid and a flexible radome?"

Applicant's next traversal is over the 102(b)/103(a) rejection over USPN 6074722 issued to Cuccias in view of USPN 5357726 issued to Effenberger et al. Firstly, the deduction is incorrect that the Examiner is basing part of the rejection over the USPN 6998156 issued to

Art Unit: 1771

Howland. Howland was cited as further evidence, for the Applicant to support the notion that flexible fabric systems are known to be used in the same art of endeavor. The combination of Cuccias in view of Effenberger is sufficient to reject the claims, and thus the combination of Howland is moot.

Applicant argues that Effenberger et al, teach away Applicant's claimed invention. Applicant states that the radome of Effenberger teaches a radome comprising a composite which recognized the problems of loss of strength and light transmission which is in sharp contrast to Applicant's claimed invention, of increasing strength and reducing radio frequency transmission and that they do not use polyester polyacrylate fibers, and rather teach an improved outer film or coating to reduce the adverse effects of weathering etc. It is the position of the Examiner that Effenberger is the secondary reference and was not relied upon for the teachings of using a composite formed from polyester polyacrylate fibers in a resin matrix, but was relied upon for the chemical makeup of their outermost or skin layer. Additionally, how a composite is to be used is beside the point, as long as the structural and chemical components making up the composite are met, how an article is used does not matter, it just has to be capable of performing, which it does.

With regard to the discussion about the preamble language on page 11 of the response, as stated above, radome is not concretely defined other than a composite formed from polyester polyacrylate fibers in a resin matrix, and Cuccias and Effenberger meet this combination. Therefore this argument is not found to be persuasive.

On the same page Applicant further argues that the combination of Cuccias and Effenberger is improper and that the examiner's conclusion of obviousness is based on improper hindsight reasoning. However, any judgment on obviousness is in a sense necessarily a reconstruction based on hindsight reasoning, but so long as it takes into account only

Art Unit: 1771

knowledge which was within the level of ordinary skill in the art at the time the claimed invention was made and does not include knowledge gleaned only from applicant's disclosure, such a reconstruction is proper." *In re McLaughlin* 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971). Applicants may also argue that the combination of two or more references is "hindsight" because "express" motivation to combine the references is lacking. However, there is no requirement that an "express, written motivation to combine must appear in prior art references before a finding of obviousness." See *Ruiz v. A.B. Chance Co.*, 357 F.3d 1270, 1276, 69 USPQ2d 1686, 1690 (Fed. Cir. 2004). For example, motivation to combine prior art references may exist in the nature of the problem to be solved (*Ruiz* at 1276, 69 USPQ2d at 1690) or the knowledge of one of ordinary skill in the art (*National Steel Car v. Canadian Pacific Railway Ltd.*, 357 F.3d 1319, 1338, 69 USPQ2d 1641, 1656 (Fed. Cir. 2004)). Therefore this arguments are not found to be persuasive and thus the rejections are maintained.

Claim Rejections - 35 USC § 112(restated for convenience)

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With regard to claims 1, 19, 34 and 35 specifically (which recite "radome") are found to be vague and unclear or not clearly envisioned as what the actual structure of the claims are. The preamble language recites a radome however no structure is given to the same other than a fabric material comprising polyester polyarylate fibers in a resin matrix.

Further, Applicant's amendments to Claim 1 adds the limitation that "structured to increase the radome strength and reduce radio frequency transmission losses through the

Art Unit: 1771

radome,” how is this being accomplished? Does the presence of just the fibers with the resin accomplish this task? This new limitation alludes one to believe that there should be more or additional recitations as what the actual structure of the radome is. For the purposes of examination until clarity is provided the Examiner will understand that the fibers found within a resin and that is used in voluminous structures like inflatable structures, airships etc.

Additionally, this would also further Applicant’s stance on differences between a rigid and flexible radome.

Claims 2-18, and 20-33 are objected to, as they are dependant upon a rejected base claim (1, 19, 34 and 35).

Claim Rejections - 35 USC § 102/103(restated for convenience)

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-35 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USPN 6074722 issued to Cuccias in view of USPN 5357726 issued to Effenberger et al.

7. Cuccias disclose a laminate material suitable for use as the wall of a pressurized container like those used in lighter than air vehicles (inflatable blimps) [abstract]. Their

Art Unit: 1771

multilayered laminate may comprise of multiple woven [column 2, line 62] or knitted fabric layers [column 3, line 9]. Said fabrics are made from high strength yarns like KEVLAR™ and VECTRAN™ (polyester polyarylate) [column 4]. The fabric layers or plies may be encapsulated in a flexible resin matrix [column 4, line 64]. Said resin is preferably polyurethane [column 4, line 15]. The instant patent teaches that one or more layers may be used along with having a varying orientation within said plies if desired, and thereby meets the limitations sought in claims 13-16 and 31-33. The laminate may have a final layer (80), which is bonded to the outermost side of the laminate and serves the purpose of UV protection. Said outer layer is usually fluoropolymer based such as TEDLAR™, which is a polyvinyl fluoride. The Examiner is equating this layer to be equivalent to the skin layer desired in claim 5. It should be noted that fluoropolymers are inherently hydrophobic in nature. Cuccias et al disclose what is set forth above but do not specifically teach the desired chemical make up of the outermost or skin layer as desired by Applicant. Effenberger et al remedy this.

Effenberger et al teach flexible reinforced textile composites which include an outer hydrophobic protective film layer (abstract). Said film layer comprises at least one or more films, at least one of which comprises a TFE polymer, preferably PTFE, or TFE, HFP or VF2. These films may be applied by any know technique in the art such as melt extrusion, casting, skiving, and paste extrusion (column 4). A person having ordinary skill in the art at the time the invention was made would have found it obvious to have used the outer layer of Effenberger et al in the composite of Cuccias, who already alludes to the use of a protective outermost layer. One would have been motivated to do this as (as shown in column 3, lines 5-11) to create an end product which has the ability to resist the deleterious effects of liquid water.

With regard to the claim limitation of the composite being “structured to increase the radome strength and reduce radio frequency transmission losses through the radome”, it is the position of the Examiner that, it is reasonable to presume that this property is inherent to the composite of Cuccias/Effenberger et al. Support for said presumption is found in the use of like materials (i.e. VECTRAN™ fibers encapsulated in a polyurethane resin matrix, and made into a multiply composite having an outer skin layer which both structurally and chemically are similar to that of Applicant’s). The burden is upon Applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594. In addition the presently claimed property of increasing the radome strength and reducing radio frequency transmission losses through the radome, would obviously have been present once the Cuccias/Effenberger et al. product is provided.

It should be noted, as set forth in the 112-2 rejection the preamble language of radome is not given any weight as no specific structure or criticality has been shown in the claims. However, such fabric systems are known to be used in the same art of endeavor. Evidence of this can be seen in the background section of USPN 6998165 [Summary of Invention].

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory

Art Unit: 1771

period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ms. Arti Singh whose telephone number is 571-272-1483. The examiner can normally be reached on M-T 9-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Arti Singh/
Primary Examiner
Art Unit 1771

Ars 08/19/07